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**MY EXPEDITION TO THE KANSAS CHALK FOR 1907.**

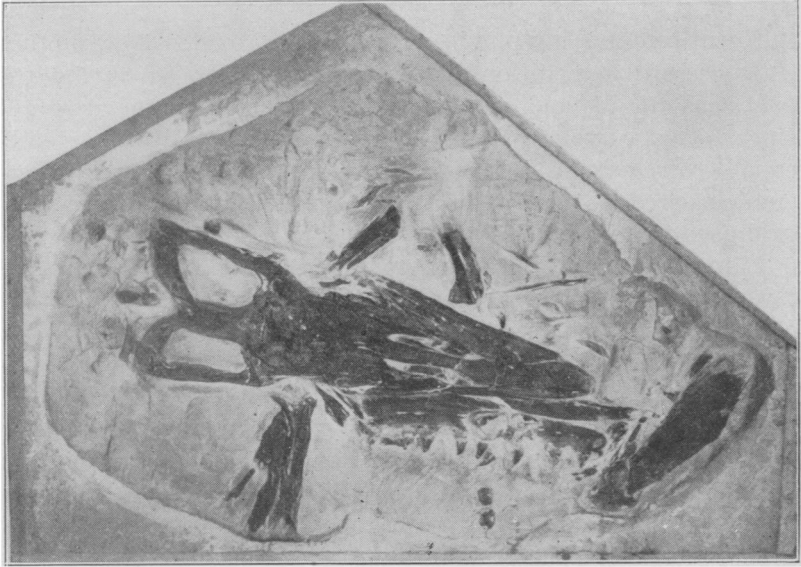
By CHARLES H. STERNBERG, LAWRENCE.

**I**T still remains my privilege to tell this Academy of another successful expedition in the Chalk of Kansas during the past season. My oldest son, who has been my chief assistant since he was twelve years old, feeling that he was perfectly capable of carrying on my work in the field without my presence, insisted on my remaining at home in my laboratory. He promised to keep me busy by sending in new material.

I am delighted to tell you that he did all he promised to, and I was well satisfied with the results. I was indeed kept busy opening boxes and preparing the tons of fossils he sent to me, and it was almost as great a pleasure as to find it myself, without the discomforts attending the actual discovery in the field, to open up to the light a finely preserved specimen collected by the second generation of fossil hunters. He sent me the best specimen of the great ram-nosed *Tylosaurus dyspelor* I have ever discovered. The entire column, except a few caudal vertebræ, are present, many continuous. And, strange to tell, for the first time the minute last caudal vertebræ are present, the last six measuring a fraction over an inch in length, and the terminal one a mere nodule of bone, less than three-tenths of an inch in diameter. There are about 126 vertebræ, instead of 116, according to the skeleton described by Doctor Williston. So the number must vary, or the last minute ones had been lost in the University specimen. Further, the caudal vertebræ decreased in all their proportions regularly; each one is a millimeter smaller than the preceding one. Consequently, as I believe, the mounted and restored Bourne specimen, in the American Museum, with a short, crooked tail, is abnormal, and not natural, as Doctor Osborn was led to believe. I have another specimen I will mention later, of the same size, in which the tail turns up in the same way that their specimen turns down. *Tylosaurus* has a long, flexible, eel-like tail.

Another fine specimen sent from the field was a complete skull, with mandibles, of a new species of the Cretaceous sea-tortoise *Toxochelys*. This I believe belongs to the new species of which I sent to Yale a couple of years ago a nearly complete carapace and plastron, described by Doctor Weiland as *Toxo-*

*chelys bauri*. The skull and mandibles are more robust than the principal species, Cope's *T. latiremus*, wider at the nasal bones, and with round orbits, instead of oblong, as in *latiremus*. The sagittal crest is larger and sculptured.



*Tylosaurus dyspeltor* Cope.

Another fine specimen discovered was a magnificent plate of Crinoids, *Uintacrinus socialis* Marsh. This last one went, through the efforts of Mr. Springer, to the National Museum. It contains 150 fine calaces and covers an area of thirty square feet. There is still another fine specimen that I have not seen, but am assured is a complete skeleton, except the head, of *Platecarpus coryphaeus* Cope. I shall be glad to show you some of these specimens of the life of the Cretaceous, at my laboratory, 617 Vermont street, Lawrence, Kan.

I missed the exhilaration and joy of discovery, and longed to find some excuse to take charge of my party, when I received a letter from Dr. E. Koken, of the museum of the University of Tübingen, Germany. He wrote me that he wished me to conduct an expedition to the Kansas Chalk for his museum, and as he accepted by wire my terms, I have spent nearly three months in his employ. We have enjoyed the most delightful fall weather I have ever experienced in the fossil beds, and our success has been remarkable. We discovered a very perfect

skull of the large ram-nosed *Tylosaurus dyspelor* Cope. It is four feet in length. I cleaned it so as to show the frontal exposure, and have only seen one skull as large, the one mounted in the Kansas University, discovered by the late Judge West. The one I sold the American Museum is only three feet nine inches long. A singular thing occurs, in connection with this skull, I have never noticed in a Kansas mosasaur before. The end of the ram, or end of the premaxillæ, is missing, and the distal end of the premaxillæ shows the depressions and elevations of one-half the suture, as in the heads of young bones of mammals, and there had evidently been a distinct center of ossification in the ram, that had not yet united firmly with the rest of the bone, and had dropped off. I found fourteen feet of the tail of another individual. There are eighty-six pygal and caudal vertebræ, and a complete pelvic arch with right femur, tibia and fibula, one tarsal and metatarsal. The ischia are directed upward and a little outward; their proximal ends unite with the illia, that lie horizontally with the column; the two pubis bones are out of place, but the right femur and other bones of the limb are in position. This is the first time I have seen these bones in place and they give the height of the illia and ischia, 19 inches; width at the upper ends of the ischia 22 inches, and 20 inches where they join the illia. A great slightly curved basin is thus formed. The ischium is 12 inches long. The illium is  $7\frac{1}{2}$  inches long where it joins the ischium. The proximal ends of the two bones are not united, but separated by a space of several inches. The pubis is  $8\frac{1}{2}$  inches long, the femur is 9 inches long, and tibia  $5\frac{1}{2}$  inches. The length of the preserved limb is 18 inches. The base of the abdomen would have the dimensions of about 20 inches in width and over 30 inches high through the median line—a powerful trunk region, indeed. The tail is a little longer than the body, or about fifteen feet.

To add to our good fortune we discovered a very beautiful skull of *Platycarpus coryphæus* Cope, with one arch and front limb. The teeth are beautifully preserved and all the bones, evidently, of the head present, though slightly disassociated. A very beautiful open mount can be made of this specimen.

It would occupy too much time to tell of all the material collected within a few miles of Elkader, the center of the richest fossil field in Kansas. But I will close by mentioning the fact that this season I succeeded in securing for Tübingen a

complete valve of the huge *Inoceramus* shells whose broken fragments strew the beds of the Upper Niobrara in western Gove and eastern Logan counties. They are so extremely thin and brittle that it is impossible to save them, without covering them with plaster. This I accomplished in the case mentioned. This valve that shows the inside is three feet seven inches long, and three feet four inches high. One graceful elevated curve follows the other, from the hinge to the rim. Think of wandering along the beach and coming across one of these shells traveling your way through the sand. If you measure six feet in height, this shell comes up to your waist. I remember, after years of experience with canned so-called "cove oysters," seeing a tempting sign "Fried Cove Oysters, 40 Cents a Dozen" at a restaurant in Philadelphia, in 1876, and concluded that I would enjoy a dozen for lunch. When in course of time the waiter appeared with a huge platter, loaded as high as possible with my fried oysters, I was very much astonished, and found that three or four satisfied my hunger. But think of a feast requiring two able-bodied men to carry one dainty morsel in, on the half-shell, which would be sufficient for a feast of Titans, for "there were giants in those days."